

In the Claims:

1. (Amended) A brushless DC motor/generator (10) comprising; a cylindrical outer rotor (19) with twenty two poles (20) constructed with segments of permanent magnet material alternatively magnetized north and south, a stator core (8) of ferromagnetic material spaced inwardly of said rotor and defining a magnetic clearance gap (9) there between, said stator core having twenty-four slots (18) and defining teeth (23) between said slots (18), a three phase winding with coils (7) of insulated wire being wound around the teeth, an electronic supply (11) including a power electronics system and a current control circuit means (14) to control the torque of said motor (10) and therefore its arresting force for braking a wheel (53) of devices on which people are displaced by said DC motor motorizing said wheel, characterized in that there is one coil per slot with predetermined connection patterns: A', C, C, B', B', A, A, C', C', B, B, and A' resulting in reduced torque ripple without any slot or magnet skewing.

2. (Amended) A brushless DC motor/generator (10) comprising; a cylindrical outer rotor (19) with twenty two poles (20) constructed with segments of permanent magnet material alternatively magnetized north and south, a stator core (8) of ferromagnetic material spaced inwardly of said rotor and defining a magnetic clearance gap (9) there between, said stator core having twenty-four slots (18) and defining teeth (23) between said slots (18), a three phase winding with coils (7) of insulated wire being wound around the teeth, an electronic supply (11) including a power electronics system and a current control circuit means (14)

to control the torque of said motor (10) and therefore its arresting force for braking a wheel (53) of devices on which people are displaced by said DC motor motorizing said wheel, characterized in that there are two coils (7) per slot (18) with predetermined connection patterns: C', C, C', C, B, B', B, B', A', A, A', A, C, C', C, C', B', B, B', B, A, A', A, A', resulting in reduced torque ripple without any slot or magnet skewing.

Claim 3 (2x Amended) A brushless DC motor/generator (10) as claimed in claim 1 characterized in that a multiple combination of additions of the number of said twenty-two poles and said twenty-four slots (18), such as forty-four said poles and forty-eight said slots, or sixty-six said poles and seventy-two said slots or ninety-six said poles and eighty-eight said slots; and a wound winding (7) around said teeth (23).

4. (2x Amended) A brushless DC motor/generator (10) as claimed in claim 1 characterized in that there are three Hall sensors (24) mounted near said air gap (25) at predetermined positions.

6. (Amended) A brushless DC motor/generator (10) as claimed in claim 5 characterized in that said single switch modulation technique is comprised of three of said mosfets (30) being connected at an upper side of said inverter (28) and remain switched "on" by a modulation signal during a motor operation mode of said motor (10), three others of said mosfets (30) being connected as a lower

side of said inverter (28) and used to measure motor phase currents during all sequences of the mosfets of said upper side.

8. (2x Amended) A brushless DC motor/generator (10) as claimed in claim 1 characterized in that said motor (10) is also used as a wheel braking device when used in a generator mode.

9. (2x Amended) A brushless DC motor/generator (10) as claimed in claim 1 characterized in that said control circuit means (14) comprises: a power electronics three phase inverter (28) provided with six power mosfets (30), a current control system (14) coupled to said inverter (28) for generation of 120 electrical degrees rectangular phase current pulses, an electronic control system (32) for both a motor and a generator operation mode of said motor (10).

Cancel Claim 11.

12. (Amended) A brushless DC motor/generator (10) as claimed in claim 2 characterized in that a multiple combination of additions of the number of said twenty-two poles and said twenty-four slots (18), such as forty-four said poles and forty-eight said slots, or sixty-six said poles and seventy-two said slots or ninety-six said poles and eighty-eight said slots; and a winding wound (7) around said teeth 23).

13. (Amended) A brushless DC motor/generator (10) as claimed in claim 2 characterized in that there are three Hall sensors (24) mounted near said air gap (25) at predetermined positions.

14. (Amended) A brushless DC motor/generator (10) as claimed in claim 2 characterized in that said motor (10) is also used as a wheel braking device when used in a generator mode.

15. (Amended) A brushless DC motor/generator (10) as claimed in claim 2 characterized in that said control circuit means (14) comprises: a power electronics three phase inverter (28) provided with six power mosfets (30), a current control system (14) coupled to said inverter (28) for generation of 120 electrical degrees rectangular phase current pulses, an electronic control system (32) for both a motor and a generator operation mode of said motor (10).

REMARKS

Applicant acknowledges that the International Search Report has been considered by the Examiner, however, Examiner requested that Applicant submit a Form 1449. Attached hereto is Form PTO/SB/08, the current PTO version of Form 1449, together with a copy of all of the references listed therein. Applicant does not have English translations of the two Japanese references, however, attached to the front of each Japanese reference is an English translation of an abstract.

The Examining Attorney objected to the specification because it did not contain an abstract. Attached hereto is an Abstract on a separate sheet.